

INITIAL
COUNT;
AS RECVD
FROM CLIENT
PRIOR TO CAN
PACK/INGROWTH

08.SPC Analyzed by

N A L A C T I V I T Y R E P O R T Version 2.2.1
Paragon Analytics, Div. of DataChem Lab
GammaScan

Geo 13 / Solid

Sample ID: 0404241-1 GS040427-2

Code: 040631D08A

```
-----
Sampling Start: 04/16/2004 12:00:00 | Counting Start: 04/29/2004 10:01:25
Sampling Stop: 04/16/2004 12:00:00 | Decay Time. . . . . 3.10e+002 Hrs
Buildup Time. . . . . 0.00e+000 Hrs | Live Time . . . . . 3600 Sec
Sample Size . . . . . 6.64e+002 g | Real Time . . . . . 3624 Sec
Collection Efficiency . . . . . 1.0000 | Spectrum File . . . . . 040631D08.SPC
Cr. Level Confidence Interval: 95 % | Det. Limit Confidence Interval: 95 %
-----
```

Detector #: 8 (Detector 8)

Efficiency File: (D08)(Sh13).EFF (Geo 13 Eff Cal)

Eff.=1/[3.29E-01*En^-1.56E+00 + 1.57E+02*En^8.17E-01] 06/12/2003

Library File: .FANP_NEW-HORIZ.LIB (NEW HORIZ._FANP+Ra-226)

MEASURED or MDA CONCENTRATIONS

Nuclide	ENERGY E (keV)	Concentration (pCi/g)	MDA	Critical Level	Halflife (hrs)
Th-234	Average:x 63.29	5.05E+00 +- 8.61E-01	. . . . .	. . . . .	3.92E+13
	92.50	3.07E+00 +- 1.22E+00	1.94E+00	9.52E-01	3.92E+13
		7.02E+00 +- 1.22E+00	1.88E+00	9.29E-01	3.92E+13
Cd-109	88.04	1.77E+01 +- 1.67E+00	2.35E+00	1.16E+00	1.09E+04
Eu-155	105.31	3.57E-01 +- 2.22E-01	3.60E-01	1.77E-01	4.35E+04
Pb-212	Average:x 115.18	8.08E+00 +- 2.35E-01	. . . . .	. . . . .	1.67E+04
	238.63	4.92E+00 +- 4.81E+00	7.86E+00	3.84E+00	1.67E+04
	300.09	8.10E+00 +- 2.38E-01	1.85E-01	9.09E-02	1.67E+04
		7.22E+00 +- 1.62E+00	2.38E+00	1.16E+00	1.67E+04
U-235	143.76	N-8.35E-02 +- 3.86E-01	6.49E-01	3.19E-01	6.17E+12
	185.72	I.D.	. . . . .	. . . . .	6.17E+12
Th-227	236.00	6.94E-01 +- 3.94E-01	6.34E-01	3.10E-01	1.90E+05
Tl-208	Average:x 277.36	2.63E+00 +- 1.31E-01	. . . . .	. . . . .	1.27E+14
	583.14	1.86E+00 +- 7.03E-01	1.09E+00	5.32E-01	1.27E+14
		2.63E+00 +- 1.37E-01	1.14E-01	5.50E-02	1.27E+14
	860.47	3.21E+00 +- 6.15E-01	7.98E-01	3.82E-01	1.27E+14
Ra-226	Average:x 295.21	8.81E+00 +- 1.90E-01	. . . . .	. . . . .	1.40E+07
	351.92	8.87E+00 +- 4.43E-01	4.47E-01	2.19E-01	1.40E+07
	609.31	8.78E+00 +- 2.98E-01	2.11E-01	1.03E-01	1.40E+07
	1120.29	8.67E+00 +- 3.20E-01	1.92E-01	9.27E-02	1.40E+07
		9.71E+00 +- 7.77E-01	5.64E-01	2.65E-01	1.40E+07
Ra-228	Average:x 338.40	8.44E+00 +- 3.47E-01	. . . . .	. . . . .	5.04E+04
	911.07	7.88E+00 +- 6.21E-01	7.06E-01	3.44E-01	5.04E+04
	968.90	8.80E+00 +- 5.21E-01	3.71E-01	1.77E-01	5.04E+04
		8.50E+00 +- 7.05E-01	6.08E-01	2.89E-01	5.04E+04

Paragon Analytics, Div. of DataChem Lab
GammaScan

Geo 13 / Solid

Sample ID: 0404241-2 GS040427-2

Code: 040563D07A

Sampling Start: 04/19/2004 12:00:00 | Counting Start: 04/29/2004 10:30:42
Sampling Stop: 04/19/2004 12:00:00 | Decay Time: 2.39e+002 Hrs
Buildup Time: 0.00e+000 Hrs | Live Time: 3600 Sec
Sample Size: 7.71e+002 g | Real Time: 3616 Sec
Collection Efficiency: 1.0000 | Spectrum File: 040563D07.SPC
Cr. Level Confidence Interval: 95 % | Det. Limit Confidence Interval: 95 %

Detector #: 7 (Detector 7)

Efficiency File: (D07)(Sh13).EFF (Geo 13 Eff Cal)

Eff.=1/[4.38E-01*En^-1.50E+00 + 1.96E+02*En^8.85E-01] 12/09/2003

Library File: .FANP_NEW-HORIZ.LIB (NEW HORIZ._FANP+Ra-226)

MEASURED or MDA CONCENTRATIONS

Table with columns: Nuclide, ENERGY E (keV), Concentration (pCi/g), MDA, Critical Level, Halflife (hrs). Includes data for Th-234, Cd-109, Pb-212, U-235, Ra-226, Bi-214, Ra-228, Sb-125, Tl-208, Bi-212, Co-56.

Paragon Analytics, Div. of DataChem Lab
 GammaScan

Geo 13 / Solid

Sample ID: 0404241-4 GS040427-2

Code: 040632D08A

```

-----
Sampling Start:   04/19/2004 12:00:00 | Counting Start:   04/29/2004 11:24:30
Sampling Stop:   04/19/2004 12:00:00 | Decay Time. . . . . 2.39e+002 Hrs
Buildup Time. . . . . 0.00e+000 Hrs | Live Time . . . . . 3600 Sec
Sample Size . . . . . 7.06e+002 g | Real Time . . . . . 3626 Sec
Collection Efficiency . . . . . 1.0000 | Spectrum File . . . . . 040632D08.SPC
Cr. Level Confidence Interval: 95 % | Det. Limit Confidence Interval: 95 %
-----
  
```

Detector #: 8 (Detector 8)

Efficiency File: (D08)(Sh13).EFF (Geo 13 Eff Cal)

Eff.=1/[3.29E-01*En^-1.56E+00 + 1.57E+02*En^8.17E-01] 06/12/2003

Library File: .FANP_NEW-HORIZ.LIB (NEW HORIZ._FANP+Ra-226)

MEASURED or MDA CONCENTRATIONS

Nuclide	ENERGY E (keV)	Concentration (pCi/g)	MDA	Critical Level	Half-life (hrs)
Th-234	Average: 63.29	1.99E+00 +- 4.52E-01	. . . . .	. . . . .	3.92E+13
	92.50	1.56E+00 +- 1.04E+00	1.68E+00	8.25E-01	3.92E+13
		2.09E+00 +- 5.02E-01	7.44E-01	3.63E-01	3.92E+13
Cd-109	88.04	8.00E+00 +- 1.08E+00	1.53E+00	7.49E-01	1.09E+04
U-235	143.76	2.01E-01 +- 2.78E-01	4.59E-01	2.24E-01	6.17E+12
	185.72	I.D.	. . . . .	. . . . .	6.17E+12
Th-227	236.00	2.83E-01 +- 2.56E-01	4.17E-01	2.03E-01	1.90E+05
Pb-212	Average: 238.63	1.29E+00 +- 1.08E-01	. . . . .	. . . . .	1.67E+04
	300.09	1.29E+00 +- 1.09E-01	1.23E-01	5.98E-02	1.67E+04
		1.17E+00 +- 8.46E-01	1.35E+00	6.49E-01	1.67E+04
Tl-208	Average: 277.36	4.02E-01 +- 5.96E-02	. . . . .	. . . . .	1.27E+14
	583.14	3.83E-01 +- 3.69E-01	6.00E-01	2.87E-01	1.27E+14
		4.05E-01 +- 6.15E-02	7.15E-02	3.40E-02	1.27E+14
	860.47	3.41E-01 +- 3.19E-01	5.14E-01	2.41E-01	1.27E+14
Ra-226	Average: 295.21	5.91E+00 +- 1.46E-01	. . . . .	. . . . .	1.40E+07
<i>Pb-214</i>	351.92	6.20E+00 +- 3.34E-01	2.91E-01	1.41E-01	1.40E+07
		6.01E+00 +- 2.32E-01	1.41E-01	6.76E-02	1.40E+07
<i>Bi-214</i>	609.31	5.61E+00 +- 2.45E-01	1.27E-01	6.03E-02	1.40E+07
	1120.29	6.05E+00 +- 6.04E-01	4.75E-01	2.21E-01	1.40E+07
Ra-228	Average: 338.40	1.53E+00 +- 1.81E-01	. . . . .	. . . . .	5.04E+04
	911.07	1.25E+00 +- 3.61E-01	5.34E-01	2.59E-01	5.04E+04
		1.58E+00 +- 2.51E-01	2.78E-01	1.31E-01	5.04E+04
	968.90	1.71E+00 +- 3.75E-01	4.63E-01	2.18E-01	5.04E+04
Sb-125	Average: 463.51	8.61E-02 +- 1.11E-01	. . . . .	. . . . .	2.43E+04
		6.95E-01 +- 3.36E-01	5.14E-01	2.45E-01	2.43E+04

Paragon Analytics, Div. of DataChem Lab
GammaScan

Geo 13 / Solid

Sample ID: 0404241-6 GS040427-2

Code: 040565D07A

```

-----
Sampling Start: 04/19/2004 12:00:00 | Counting Start: 04/29/2004 13:16:02
Sampling Stop: 04/19/2004 12:00:00 | Decay Time. . . . . 2.41e+002 Hrs
Buildup Time. . . . . 0.00e+000 Hrs | Live Time . . . . . 3600 Sec
Sample Size . . . . . 6.87e+002 g | Real Time . . . . . 3619 Sec
Collection Efficiency . . . . . 1.0000 | Spectrum File . . . . . 040565D07.SPC
Cr. Level Confidence Interval: 95 % | Det. Limit Confidence Interval: 95 %
-----
    
```

Detector #: 7 (Detector 7)

Efficiency File: (D07) (Sh13).EFF (Geo 13 Eff Cal)

Eff.=1/[4.38E-01*En^-1.50E+00 + 1.96E+02*En^8.85E-01] 12/09/2003

Library File: .FANP_NEW-HORIZ.LIB (NEW HORIZ._FANP+Ra-226)

MEASURED or MDA CONCENTRATIONS

Nuclide	ENERGY E (keV)	Concentration (pCi/g)	MDA	Critical Level	Halflife (hrs)
Th-234	Average:x 63.29	1.23E+00 +- 4.14E-01	. . . . .	. . . . .	3.92E+13
	92.50	6.46E-01 +- 5.70E-01	9.23E-01	4.45E-01	3.92E+13
		1.89E+00 +- 6.03E-01	9.29E-01	4.54E-01	3.92E+13
Cd-109	88.04	2.63E+00 +- 6.74E-01	9.73E-01	4.70E-01	1.09E+04
U-235	143.76 N	5.54E-02 +- 1.84E-01	3.09E-01	1.49E-01	6.17E+12
	185.72	I.D.	. . . . .	. . . . .	6.17E+12
Pb-212	Average:x 238.63	1.35E+00 +- 1.03E-01	. . . . .	. . . . .	1.67E+04
	300.09	1.35E+00 +- 1.04E-01	9.00E-02	4.29E-02	1.67E+04
		1.32E+00 +- 6.41E-01	9.45E-01	4.41E-01	1.67E+04
Tl-208	Average:x 277.36	4.22E-01 +- 5.88E-02	. . . . .	. . . . .	1.27E+14
	583.14	3.82E-01 +- 3.12E-01	4.96E-01	2.33E-01	1.27E+14
		4.16E-01 +- 6.14E-02	5.98E-02	2.77E-02	1.27E+14
	860.47	5.93E-01 +- 2.75E-01	3.69E-01	1.64E-01	1.27E+14
Ra-226	Average:x 295.21	5.82E-01 +- 6.45E-02	. . . . .	. . . . .	1.40E+07
Pb-214 <	351.92	7.54E-01 +- 1.70E-01	2.25E-01	1.07E-01	1.40E+07
		6.08E-01 +- 9.98E-02	1.14E-01	5.36E-02	1.40E+07
Bi-214 <	609.31	4.95E-01 +- 1.02E-01	1.18E-01	5.51E-02	1.40E+07
	1120.29	5.54E-01 +- 3.22E-01	4.76E-01	2.17E-01	1.40E+07
Ra-228	Average:x 338.40	1.17E+00 +- 1.60E-01	. . . . .	. . . . .	5.04E+04
	911.07	9.47E-01 +- 2.64E-01	3.55E-01	1.67E-01	5.04E+04
		1.27E+00 +- 2.36E-01	2.34E-01	1.06E-01	5.04E+04
	968.90	1.36E+00 +- 3.79E-01	4.77E-01	2.20E-01	5.04E+04
Sb-125	Average:x 463.51	6.40E-02 +- 7.05E-02	. . . . .	. . . . .	2.43E+04
	427.95 N	4.18E-01 +- 2.32E-01	3.42E-01	1.57E-01	2.43E+04
		2.80E-02 +- 7.40E-02	1.27E-01	5.86E-02	2.43E+04

Paragon Analytics, Div. of DataChem Lab
 GammaScan

Geo 13 / Solid

Sample ID: 0404241-8 GS040427-2

Code: 040564D07A

```
-----
Sampling Start:   04/22/2004 12:00:00 | Counting Start:   04/29/2004 11:36:53
Sampling Stop:   04/22/2004 12:00:00 | Decay Time. . . . . 1.68e+002 Hrs
Buildup Time. . . . . 0.00e+000 Hrs | Live Time . . . . . 3600 Sec
Sample Size . . . . . 6.56e+002 g | Real Time . . . . . 3624 Sec
Collection Efficiency . . . . . 1.0000 | Spectrum File . . . . . 040564D07.SPC
Cr. Level Confidence Interval: 95 % | Det. Limit Confidence Interval: 95 %
-----
```

Detector #: 7 (Detector 7)

Efficiency File: (D07)(Sh13).EFF (Geo 13 Eff Cal)

Eff.=1/[4.38E-01*En^-1.50E+00 + 1.96E+02*En^8.85E-01] 12/09/2003

Library File: .FANP_NEW-HORIZ.LIB (NEW HORIZ._FANP+Ra-226)

=====

MEASURED or MDA CONCENTRATIONS

=====

Nuclide	ENERGY E (keV)	Concentration (pCi/g)	MDA	Critical Level	Half-life (hrs)
Th-234	Average:x 63.29	2.69E+01 +- 1.11E+00	. . . . .	. . . . .	3.92E+13
	92.50	2.81E+01 +- 1.91E+00	2.46E+00	1.21E+00	3.92E+13
		2.63E+01 +- 1.36E+00	1.67E+00	8.23E-01	3.92E+13
Cd-109	88.04	1.21E+01 +- 1.90E+00	2.89E+00	1.43E+00	1.09E+04
U-235	Average:x 143.76	1.47E+00 +- 3.35E-01	. . . . .	. . . . .	6.17E+12
	163.35	1.66E+00 +- 4.20E-01	6.42E-01	3.15E-01	6.17E+12
	185.72	1.37E+00 +- 1.21E+00	1.99E+00	9.79E-01	6.17E+12
	205.31	I.D.	. . . . .	. . . . .	6.17E+12
Th-227	236.00	1.08E+00 +- 6.24E-01	9.89E-01	4.78E-01	6.17E+12
Pb-212	Average:x 238.63	7.14E-01 +- 4.43E-01	7.14E-01	3.50E-01	1.90E+05
	300.09	7.24E-01 +- 1.29E-01	1.86E-01	9.07E-02	1.67E+04
		1.41E+00 +- 1.29E+00	2.09E+00	1.01E+00	1.67E+04
Ra-226	Average:x 295.21	1.35E+01 +- 2.97E-01	. . . . .	. . . . .	1.40E+07
Pb-214 <	351.92	1.37E+01 +- 5.45E-01	4.49E-01	2.19E-01	1.40E+07
		1.34E+01 +- 3.91E-01	2.44E-01	1.19E-01	1.40E+07
Bi-214 <	609.31	1.35E+01 +- 1.37E+00	1.89E+00	9.40E-01	1.40E+07
	1120.29	1.40E+01 +- 1.07E+00	8.25E-01	3.90E-01	1.40E+07
Ra-228	Average:x 338.40	6.38E-01 +- 1.95E-01	. . . . .	. . . . .	5.04E+04
	911.07	7.98E-01 +- 3.90E-01	6.07E-01	2.93E-01	5.04E+04
	968.90	6.41E-01 +- 2.92E-01	4.40E-01	2.09E-01	5.04E+04
		4.99E-01 +- 3.55E-01	5.55E-01	2.59E-01	5.04E+04
Sb-125	Average:x 427.95	1.39E-01 +- 1.17E-01	. . . . .	. . . . .	2.43E+04
	463.51	1.18E-01 +- 1.20E-01	1.95E-01	9.27E-02	2.43E+04
		5.56E-01 +- 5.38E-01	8.76E-01	4.23E-01	2.43E+04

Paragon Analytics, Div. of DataChem Lab
 GammaScan

Geo 13 / Solid

Sample ID: 0404241-10 GS040427-2

Code: 040633D08A

```

-----
Sampling Start:   04/22/2004 12:00:00 | Counting Start:   04/29/2004 13:16:06
Sampling Stop:   04/22/2004 12:00:00 | Decay Time. . . . . 1.69e+002 Hrs
Buildup Time. . . . . 0.00e+000 Hrs | Live Time . . . . . 3600 Sec
Sample Size . . . . . 6.26e+002 g | Real Time . . . . . 3619 Sec
Collection Efficiency . . . . . 1.0000 | Spectrum File . . . . . 040633D08.SPC
Cr. Level Confidence Interval: 95 % | Det. Limit Confidence Interval: 95 %
-----
  
```

Detector #: 8 (Detector 8)

Efficiency File: (D08)(Sh13).EFF (Geo 13 Eff Cal)

Eff.=1/[3.29E-01*En^-1.56E+00 + 1.57E+02*En^8.17E-01] 06/12/2003

Library File: .FANP_NEW-HORIZ.LIB (NEW HORIZ._FANP+Ra-226)

MEASURED or MDA CONCENTRATIONS

Nuclide	ENERGY E (keV)	Concentration (pCi/g)	MDA	Critical Level	Half-life (hrs)
Th-234	Average:x	2.97E+01 +- 1.08E+00			3.92E+13
	63.29	3.08E+01 +- 1.80E+00	2.19E+00	1.08E+00	3.92E+13
	92.50	2.90E+01 +- 1.35E+00	1.61E+00	7.94E-01	3.92E+13
Cd-109	88.04	5.12E+00 +- 1.40E+00	2.18E+00	1.07E+00	1.09E+04
U-235	Average:x	1.99E+00 +- 3.12E-01			6.17E+12
	143.76	2.11E+00 +- 3.74E-01	5.43E-01	2.66E-01	6.17E+12
	163.35	1.98E+00 +- 8.26E-01	1.31E+00	6.40E-01	6.17E+12
	185.72	I.D.			6.17E+12
	205.31	1.50E+00 +- 7.74E-01	1.23E+00	6.00E-01	6.17E+12
Th-227	236.00	8.12E-01 +- 3.40E-01	5.32E-01	2.59E-01	1.90E+05
Pb-212	Average:x	7.48E-01 +- 1.12E-01			1.67E+04
	238.63	7.42E-01 +- 1.13E-01	1.56E-01	7.60E-02	1.67E+04
	300.09	1.13E+00 +- 9.29E-01	1.50E+00	7.18E-01	1.67E+04
Ra-226	Average:x	1.17E+01 +- 2.13E-01			1.40E+07
	295.21	1.15E+01 +- 4.61E-01	3.37E-01	1.63E-01	1.40E+07
	351.92	1.20E+01 +- 3.42E-01	1.78E-01	8.60E-02	1.40E+07
	609.31	1.13E+01 +- 3.66E-01	1.67E-01	7.96E-02	1.40E+07
	1120.29	1.17E+01 +- 8.64E-01	5.80E-01	2.72E-01	1.40E+07
Ra-228	Average:x	6.48E-01 +- 1.76E-01			5.04E+04
	338.40	7.41E-01 +- 4.03E-01	6.38E-01	3.10E-01	5.04E+04
	911.07	6.02E-01 +- 2.38E-01	3.50E-01	1.66E-01	5.04E+04
	968.90	6.76E-01 +- 3.46E-01	5.21E-01	2.45E-01	5.04E+04
Sb-125	Average:x	2.00E-01 +- 1.46E-01			2.43E+04
	463.51	6.04E-01 +- 4.29E-01	6.85E-01	3.30E-01	2.43E+04
	427.95 N	1.47E-01 +- 1.56E-01	2.54E-01	1.23E-01	2.43E+04

Paragon Analytics, Div. of DataChem Lab
 GammaScan

 Geo 13 / Solid

Sample ID: 0404241-10D GS040427-2

Code: 040567D07A

 Sampling Start: 04/22/2004 12:00:00 | Counting Start: 04/29/2004 14:42:26
 Sampling Stop: 04/22/2004 12:00:00 | Decay Time. 1.71e+002 Hrs
 Buildup Time. 0.00e+000 Hrs | Live Time 5400 Sec
 Sample Size 6.26e+002 g | Real Time 5458 Sec
 Collection Efficiency 1.0000 | Spectrum File 040567D07.SPC
 Cr. Level Confidence Interval: 95 % | Det. Limit Confidence Interval: 95 %

Detector #: 7 (Detector 7)

Efficiency File: (D07)(Sh13).EFF (Geo 13 Eff Cal)

Eff.=1/[4.38E-01*En^-1.50E+00 + 1.96E+02*En^8.85E-01] 12/09/2003

Library File: . . FANP_NEW-HORIZ.LIB (NEW HORIZ._FANP+Ra-226)

=====

MEASURED or MDA CONCENTRATIONS

=====

Nuclide	ENERGY E (keV)	Concentration (pCi/g)	MDA	Critical Level	Halflife (hrs)
Th-234	Average:x	3.01E+01 +- 9.27E-01			3.92E+13
	63.29	3.09E+01 +- 1.59E+00	1.97E+00	9.73E-01	3.92E+13
	92.50	2.97E+01 +- 1.14E+00	1.32E+00	6.51E-01	3.92E+13
Cd-109	88.04	5.72E+00 +- 1.20E+00	1.86E+00	9.19E-01	1.09E+04
	U-235	Average:x	1.82E+00 +- 2.90E-01		6.17E+12
U-235	143.76	2.07E+00 +- 3.62E-01	5.41E-01	2.66E-01	6.17E+12
	163.35	1.39E+00 +- 7.24E-01	1.16E+00	5.72E-01	6.17E+12
	185.72	I.D.			6.17E+12
	205.31	1.35E+00 +- 6.57E-01	1.05E+00	5.11E-01	6.17E+12
Th-227	236.00	9.49E-01 +- 2.98E-01	4.59E-01	2.24E-01	1.90E+05
Pb-212	Average:x	7.95E-01 +- 9.18E-02			1.67E+04
	238.63	7.90E-01 +- 9.20E-02	1.19E-01	5.82E-02	1.67E+04
	300.09	1.68E+00 +- 1.26E+00	2.04E+00	9.96E-01	1.67E+04
Ra-226	Average:x	1.16E+01 +- 1.91E-01			1.40E+07
	295.21	1.15E+01 +- 4.09E-01	3.10E-01	1.51E-01	1.40E+07
	351.92	1.19E+01 +- 3.06E-01	1.79E-01	8.72E-02	1.40E+07
	609.31	1.12E+01 +- 3.28E-01	1.60E-01	7.68E-02	1.40E+07
Bi-214	1120.29	1.17E+01 +- 8.12E-01	6.07E-01	2.88E-01	1.40E+07
	Ra-228	Average:x	7.22E-01 +- 1.66E-01		5.04E+04
	338.40	1.09E+00 +- 3.75E-01	5.77E-01	2.81E-01	5.04E+04
	911.07	6.83E-01 +- 2.35E-01	3.43E-01	1.64E-01	5.04E+04
Sb-125	968.90	5.46E-01 +- 3.03E-01	4.64E-01	2.19E-01	5.04E+04
	Average:x	1.36E-01 +- 1.16E-01			2.43E+04
	463.51	3.18E-01 +- 3.11E-01	5.06E-01	2.42E-01	2.43E+04
	427.95 N	1.07E-01 +- 1.25E-01	2.05E-01	9.91E-02	2.43E+04

CAN PACK
Zi-DAY
INGROWTH
CT

I N A L A C T I V I T Y R E P O R T Version 2.2.1
Paragon Analytcs, Div. of DataChem Lab
GammaScan

Geo 17/26

Sample ID: 0404241-3 GS040428-2

Code: 040788D02A

Sampling Start: 04/19/2004 12:00:00 | Counting Start: 05/21/2004 08:59:27
Sampling Stop: 04/19/2004 12:00:00 | Decay Time. 7.65e+002 Hrs
Buildup Time. 0.00e+000 Hrs | Live Time 1800 Sec
Sample Size 1.82e+002 g | Real Time 1808 Sec
Collection Efficiency 1.0000 | Spectrum File 040788D02.SPC
Cr. Level Confidence Interval: 95 % | Det. Limit Confidence Interval: 95 %

Detector #: 2 (Detector 2)

Efficiency File: (D02)(Sh26).eff (Geo 26 Eff Cal)
Eff.= Spline Fit 04/16/2004

Library File: RA226.LIB (Ra-226 (215g steel can))

=====

MEASURED or MDA CONCENTRATIONS

=====

Nuclide	ENERGY E (keV)	Concentration (pCi/g)	MDA	Critical Level	Half-life (hrs)
Ra-226	Average: x	5.27E+00 +/- 4.10E-01	. . . . .	. . . . .	1.40E+07
Pb-214 <	295.21	5.46E+00 +/- 8.79E-01	8.01E-01	3.65E-01	1.40E+07
	351.92	5.45E+00 +/- 6.53E-01	5.31E-01	2.44E-01	1.40E+07
Bi-214 <	609.31	5.13E+00 +/- 7.08E-01	5.09E-01	2.26E-01	1.40E+07
	1120.29	3.95E+00 +/- 1.77E+00	2.35E+00	1.04E+00	1.40E+07

MEASURED TOTAL: 5.27E+00 +/- 4.10E-01 pCi/g

=====

UNKNOWN, SUM or ESCAPE PEAKS

=====

PK. #	ENERGY (keV)	ADDRESS CHANNEL	NET COUNTS	UN-CERTAINTY	C.L. COUNTS	BKG COUNTS	FWHM (keV)	FLAG
1	74.86	151.15	83	33	23	94	1.03	Unknown
2	77.02	155.47	132	36	23	94	0.93	Unknown
3	87.08	175.58	44	25	18	69	0.66	Unknown
4	89.63	180.66	16	27	21	87	0.79	Deleted
5	92.90	187.22	28	32	25	104	1.04	Unknown
6	156.83	315.00	7	18	14	49	0.42	Deleted
7	185.91	373.13	56	28	19	68	0.86	Unknown
8	209.19	419.68	22	22	16	53	0.75	Unknown
9	238.57	478.41	172	34	18	57	0.99	Unknown
10	241.72	484.71	85	30	20	67	1.09	Unknown
12	338.13	677.44	47	25	17	47	1.11	Unknown

SEEKER F I N A L A C T I V I T Y R E P O R T Version 2.2.1

Paragon Analytics, Div. of DataChem Lab
GammaScan

Geo 17/26

Sample ID: 0404241-5 GS040428-2

Code: 040764D03A

```

-----
Sampling Start:   04/19/2004 12:00:00 | Counting Start:   05/21/2004 08:59:30
Sampling Stop:   04/19/2004 12:00:00 | Decay Time. . . . . 7.65e+002 Hrs
Buildup Time. . . . . 0.00e+000 Hrs | Live Time . . . . . 1800 Sec
Sample Size . . . . . 1.73e+002 g | Real Time . . . . . 1808 Sec
Collection Efficiency . . . . . 1.0000 | Spectrum File . . . . . 040764D03.SPC
Cr. Level Confidence Interval: 95 % | Det. Limit Confidence Interval: 95 %
-----
    
```

Detector #: 3 (Detector 3)

Efficiency File: (D03) (Sh26).eff (Geo 26 Eff Cal)

Eff.= Spline Fit 04/18/2004

Library File: RA226.LIB (Ra-226 (215g steel can))

MEASURED or MDA CONCENTRATIONS

Nuclide	ENERGY E (keV)	Concentration (pCi/g)	MDA	Critical Level	Half-life (hrs)
Ra-226	Average: x	1.69E+01 +- 7.66E-01	. . . . .	. . . . .	1.40E+07
	295.21	1.71E+01 +- 1.66E+00	1.50E+00	7.10E-01	1.40E+07
Pb-214 <	351.92	1.71E+01 +- 1.20E+00	8.37E-01	3.95E-01	1.40E+07
	609.31	1.65E+01 +- 1.35E+00	8.98E-01	4.17E-01	1.40E+07
Bi-214 <	1120.29	1.81E+01 +- 3.16E+00	2.58E+00	1.14E+00	1.40E+07

MEASURED TOTAL: 1.69E+01 +- 7.66E-01 pCi/g

UNKNOWN, SUM or ESCAPE PEAKS

PK. #	ENERGY (keV)	ADDRESS CHANNEL	NET COUNTS	UN-CERTAINTY	C.L. COUNTS	BKG COUNTS	FWHM (keV)	FLAG
1	75.17	151.12	197	56	40	265	1.10	Unknown
2	77.41	155.60	354	57	35	227	0.90	Unknown
3	84.55	169.89	52	43	33	197	1.04	Unknown
4	87.59	175.96	153	51	37	230	1.15	Unknown
5	90.23	181.23	65	57	45	296	1.40	Unknown
6	93.21	187.20	42	38	30	164	0.79	Unknown
7	105.58	211.92	43	37	29	140	1.18	Unknown
8	186.48	373.63	164	43	28	139	1.06	Unknown
9	239.09	478.79	327	50	28	131	1.14	Unknown
10	242.39	485.40	245	43	25	112	1.06	Unknown
11	269.84	540.28	43	26	18	71	1.01	Unknown

Paragon Analytics, Div. of DataChem Lab
GammaScan

Geo 17/26

Sample ID: 0404241-5D GS040428-2

Code: 040708D07A

Sampling Start: 04/19/2004 12:00:00 | Counting Start: 05/21/2004 08:59:33
Sampling Stop: 04/19/2004 12:00:00 | Decay Time: 7.65e+002 Hrs
Buildup Time: 0.00e+000 Hrs | Live Time: 1800 Sec
Sample Size: 1.68e+002 g | Real Time: 1928 Sec
Collection Efficiency: 1.0000 | Spectrum File: .040708D07.SPC
Cr. Level Confidence Interval: 95 % | Det. Limit Confidence Interval: 95 %

Detector #: 7 (Detector 7)

Efficiency File: (D07) (Sh26).eff (Geo 26 Eff Cal)

Eff.= Spline Fit 12/09/2003

Library File: RA226.LIB (Ra-226 (215g steel can))

MEASURED or MDA CONCENTRATIONS

Table with columns: Nuclide, ENERGY E (keV), Concentration (pCi/g), MDA, Critical Level, Halflife (hrs). Includes handwritten annotations 'Pb-214' and 'Bi-214' next to rows 2, 3, and 4.

MEASURED TOTAL: 1.96E+01 +- 8.71E-01 pCi/g

UNKNOWN, SUM or ESCAPE PEAKS

Table with columns: PK.#, ENERGY (keV), ADDRESS CHANNEL, NET COUNTS, UN-CERTAINTY, C.L. COUNTS, BKG COUNTS, FWHM (keV), FLAG. Lists 12 peaks with 'Unknown' flags.

Paragon Analytics, Div. of DataChem Lab
 GammaScan

 Geo 17/26

Sample ID: 0404241-7 GS040428-2

Code: 040772D08A

 Sampling Start: 04/19/2004 12:00:00 | Counting Start: 05/21/2004 08:59:37
 Sampling Stop: 04/19/2004 12:00:00 | Decay Time. 7.65e+002 Hrs
 Buildup Time. 0.00e+000 Hrs | Live Time 1800 Sec
 Sample Size 1.51e+002 g | Real Time 1928 Sec
 Collection Efficiency 1.0000 | Spectrum File 040772D08.SPC
 Cr. Level Confidence Interval: 95 % | Det. Limit Confidence Interval: 95 %

Detector #: 8 (Detector 8)

Efficiency File: (D08) (Sh26).eff (Geo 26 Eff Cal)

Eff.= Spline Fit 01/02/2004

 Library File: RA226.LIB (Ra-226 (215g steel can))
 =====

MEASURED or MDA CONCENTRATIONS

=====

Nuclide	ENERGY E (keV)	Concentration (pCi/g)	MDA	Critical Level	Half-life (hrs)
Ra-226	Average: x	1.76E+00 +- 3.28E-01	. . . . .	. . . . .	1.40E+07
<i>Pb-214</i> <	295.21	1.94E+00 +- 8.12E-01	1.13E+00	5.21E-01	1.40E+07
	351.92	1.60E+00 +- 4.41E-01	4.73E-01	2.09E-01	1.40E+07
<i>Bi-214</i> -	609.31	1.98E+00 +- 6.16E-01	7.46E-01	3.37E-01	1.40E+07

MEASURED TOTAL: 1.76E+00 +- 3.28E-01 pCi/g

=====

UNKNOWN, SUM or ESCAPE PEAKS

=====

PK. #	ENERGY (keV)	ADDRESS CHANNEL	NET COUNTS	UN-CERTAINTY	C.L. COUNTS	BKG COUNTS	FWHM (keV)	FLAG
1	63.10	126.73	14	24	19	66	0.73	Deleted
2	70.74	142.00	7	16	12	40	0.38	Deleted
3	74.79	150.11	81	31	21	81	0.78	Unknown
4	77.12	154.77	175	39	24	97	0.91	Unknown
5	87.16	174.85	50	27	19	69	0.74	Unknown
6	89.72	179.98	29	25	19	69	0.76	Unknown
7	92.91	186.35	48	34	26	97	1.17	Unknown
8	166.31	333.15	27	19	13	30	1.02	Unknown
9	185.78	372.10	25	22	16	43	0.90	Unknown
10	238.62	477.78	233	35	15	37	0.86	Unknown
11	241.94	484.42	43	25	17	51	1.22	Unknown
12	270.59	541.71	15	12	8	16	0.54	Unknown

SEEKER F I N A L A C T I V I T Y R E P O R T Version 2.2.1

Paragon Analytics, Div. of DataChem Lab
GammaScan

Geo 17/26

Sample ID: 0404241-9 GS040428-2

Code: 040789D02A

```

-----
Sampling Start: 04/22/2004 12:00:00 | Counting Start: 05/21/2004 09:52:34
Sampling Stop: 04/22/2004 12:00:00 | Decay Time. . . . . 6.94e+002 Hrs
Buildup Time. . . . . 0.00e+000 Hrs | Live Time . . . . . 1800 Sec
Sample Size . . . . . 1.47e+002 g | Real Time . . . . . 1807 Sec
Collection Efficiency . . . . . 1.0000 | Spectrum File . . . . . 040789D02.SPC
Cr. Level Confidence Interval: 95 % | Det. Limit Confidence Interval: 95 %
-----
    
```

Detector #: 2 (Detector 2)

Efficiency File: (D02)(Sh26).eff (Geo 26 Eff Cal)

Eff.= Spline Fit 04/16/2004

Library File: RA226.LIB (Ra-226 (215g steel can))

MEASURED or MDA CONCENTRATIONS

Nuclide	ENERGY E (keV)	Concentration (pCi/g)	MDA	Critical Level	Half-life (hrs)
Ra-226	Average: x	1.74E+01 +- 7.95E-01	. . . . .	. . . . .	1.40E+07
<i>Pb-214</i> <	295.21	1.71E+01 +- 1.69E+00	1.40E+00	6.58E-01	1.40E+07
	351.92	1.81E+01 +- 1.25E+00	7.63E-01	3.55E-01	1.40E+07
<i>Bi-214</i> <	609.31	1.66E+01 +- 1.39E+00	8.65E-01	3.98E-01	1.40E+07
	1120.29	1.83E+01 +- 3.47E+00	3.29E+00	1.48E+00	1.40E+07

MEASURED TOTAL: 1.74E+01 +- 7.95E-01 pCi/g

UNKNOWN, SUM or ESCAPE PEAKS

PK. #	ENERGY (keV)	ADDRESS CHANNEL	NET COUNTS	UN-CERTAINTY	C.L. COUNTS	BKG COUNTS	FWHM (keV)	FLAG
1	63.28	127.99	91	34	24	118	0.71	Unknown
2	74.78	150.98	100	38	27	156	0.70	Unknown
3	77.05	155.53	257	42	22	117	0.50	Unknown
4	83.85	169.12	78	39	29	163	0.80	Unknown
5	87.08	175.57	138	46	33	196	0.97	Unknown
6	89.73	180.87	68	38	29	163	0.77	Unknown
7	92.53	186.47	<i>508</i>	61	33	196	0.95	Unknown
8	98.25	197.89	35	34	26	139	0.87	1120DEsc
9	130.88	263.13	22	23	18	76	0.52	Unknown
10	143.67	288.70	48	27	19	84	0.42	Unknown
11	163.44	328.22	33	31	23	110	0.79	Unknown

Paragon Analytics, Div. of DataChem Lab
GammaScan

Geo 17/26

Sample ID: 0404241-11 GS040428-2

Code: 040765D03A

Sampling Start: 04/22/2004 12:00:00 | Counting Start: 05/21/2004 09:52:38
Sampling Stop: 04/22/2004 12:00:00 | Decay Time: 6.94e+002 Hrs
Buildup Time: 0.00e+000 Hrs | Live Time: 1800 Sec
Sample Size: 1.42e+002 g | Real Time: 1807 Sec
Collection Efficiency: 1.0000 | Spectrum File: .040765D03.SPC
Cr. Level Confidence Interval: 95 % | Det. Limit Confidence Interval: 95 %

Detector #: 3 (Detector 3)

Efficiency File: (D03)(Sh26).eff (Geo 26 Eff Cal)

Eff.= Spline Fit 04/18/2004

Library File: RA226.LIB (Ra-226 (215g steel can))

MEASURED or MDA CONCENTRATIONS

Table with columns: Nuclide, ENERGY E (keV), Concentration (pCi/g), MDA, Critical Level, Halflife (hrs). Includes data for Ra-226, Pb-214, and Bi-214.

MEASURED TOTAL: 2.58E+01 +- 1.03E+00 pCi/g

UNKNOWN, SUM or ESCAPE PEAKS

Table with columns: PK.#, ENERGY (keV), ADDRESS CHANNEL, NET COUNTS, UN-CERTAINTY, C.L. COUNTS, BKG COUNTS, FWHM (keV), FLAG. Lists 11 unknown peaks.